SANYO

SANYO
STEREO AMPLIFIER
DCA 650 SEV
SERVICE MANUAL

SPECIFICATIONS

POWER AMPLIFIER SECTION

Music Power (IHF):
- Amplifier load at 4 ohms 190 Watts
- 8 ohms 130 Watts

Continuous Power Output:
- Amplifier load at 4 ohms 60W/60W
- 8 ohms 55W/55W
- (1KHz, each channel driven)
- Amplifier load at 4 ohms 50W/50W
- 8 ohms 45W/45W
- (1KHz, both channel driven)
- Power Output in the range of 20 to 20KHz
- Amplifier load at 4 ohms 52W/52W
- 8 ohms 43W/43W
- (Both channel driven)

Harmonic Distortion: Less than 0.1% (Continuous Power)
Less than 0.05% at Power 1W/ch

Intermodulation Distortion: Less than 0.1% (Continuous Power)
Less than 0.04% at Power 1W/ch

Power Bandwidth (HF): 5 to 80KHz (both channel driven)

Frequency Response: 5 to 100KHz ± 1dB

Input Sensitivity/Impedance:
- Main Power Input: 1.0V/50K ohms

Matching Speaker Impedance: 4 to 16 ohms

POWER AMPLIFIER SECTION

Damping Factor: More than 60 (1KHz, 8 ohms)

Signal to Noise Ratio: More than 110dB (IHF, short circuit A network)

Residual Hum and Noise: 0.3mV (at 8 ohms)
Less than 0.8mV
(8 ohms, pre & main power amp.)

Slow Rate: Switchable
5 V/μs to 20 V/μs

PRE-AMPLIFIER SECTION

Input Sensitivity/Impedance:
(1KHZ, at rated power)

PHONO 1, 2.	: 2.5mV/50K ohms
TUNER	: 140mV/60K ohms
AUX 1, 2.	: 140mV/60K ohms
TAPE 1, 2:	: 140mV/60K ohms
MIC	: 2.5mV/50K ohms

Phono Overload Input: RMS 400mV Max.
Peak to Peak 1100mV Max.

Mic Overload Input: RMS 500mV Max.

Signal to Noise:

PHONO 1, 2. (IHF, B network)	More than 70dB
MIC (IHF, B network)	More than 70dB
TUNER (IHF, B network)	More than 90dB
AUX 1, 2.	More than 90dB
TAPE (IHF, B network)	More than 90dB

Output Level/Impedance:

TAPE REC 1, 2 :	140mV/1K ohms
TAPE REC DIN :	35mV/80K ohms
PRE-AMP OUT :	1.2V/1K ohms
Max.....	5.0V/1K ohms

Harmonic Distortion: PRE-AMP OUT : 0.04%
(At nominal Output Level)

Frequency Response:

PHONO	RIAA S. T. D. equalization
TUNER/TAPE/AUX	30 to 15KHz ±0.5dB
TUNER/TAPE/AUX	10 to 60KHz +0, −1dB
MIC	10 to 10KHz +0, −1dB

Tone Control:
- Bass Control: Turnover 250Hz, ±10dB at 50Hz
  Turnover 500Hz, ±10dB at 100Hz
- Treble Control: Turnover 2.5KHz, ±10dB at 10KHz
  Turnover 5KHz, ±10dB at 20KHz

Filter Control:
- Subsonic Filter: 20KHz (12dB/oct.)
- Low Filter: 70Hz (12dB/oct.)

Loudness Control: 100Hz, +8dB
(Power output level at −30dB) 10KHz, +3dB
Audio Muting: 1KHz, −20dB

MISCELLANEOUS

Power Requirements: 110V, 220V 50/60Hz

AC Outlets: Switched: Two 150 Watts
Unswitched: One 200 Watts

Dimensions (overall):

Width	420mm
Height	130mm
Depth	330mm

Weight: (Approx.) Without Package 10.2 Kg

ADJUSTMENT

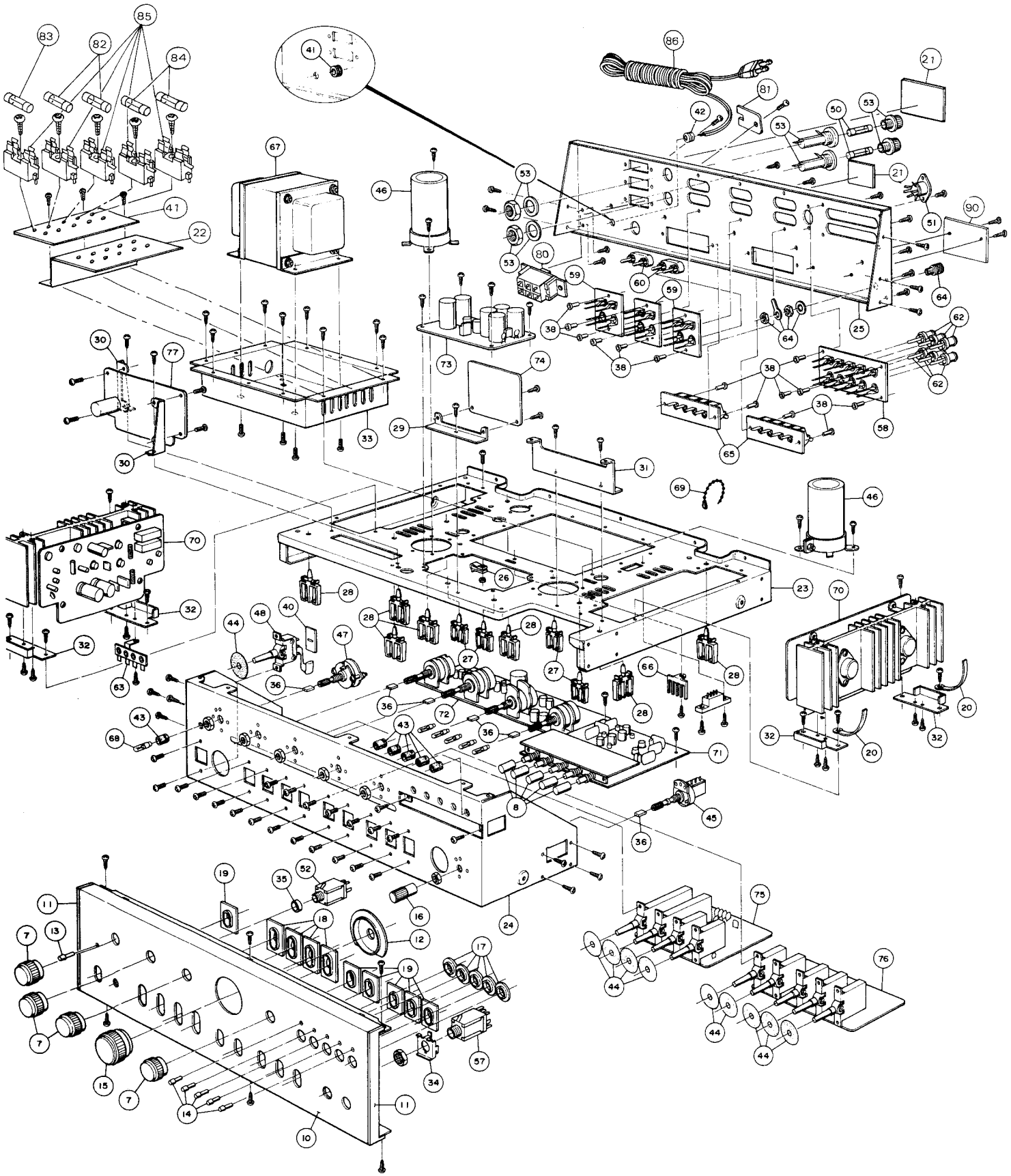
*Tool to be provided.
DC V.T.V.M. or TESTER (Input impedance: more than 50KΩ/V)
(Mili-Volt Meter)

*Note on adjustment
1. No signal at input terminals.
2. Connect 8Ω - dammy load to the output terminals.

CENTER ZERO-VOLT ADJUSTMENT

(A) Turn the semi-fixed variable resistor (VR401 - 1k -B) so that the voltage of the output terminal becomes zero volt.
(B) Turn the semi-fixed variable resistor (VR402 - 1k-B) so that the idling current becomes 30 mA . . . . . Measure the voltage of the both side of the R430 resistor (0.47Ω) and adjust the VR402 so that the value becomes 0.014 volts.

EXPLODED VIEW

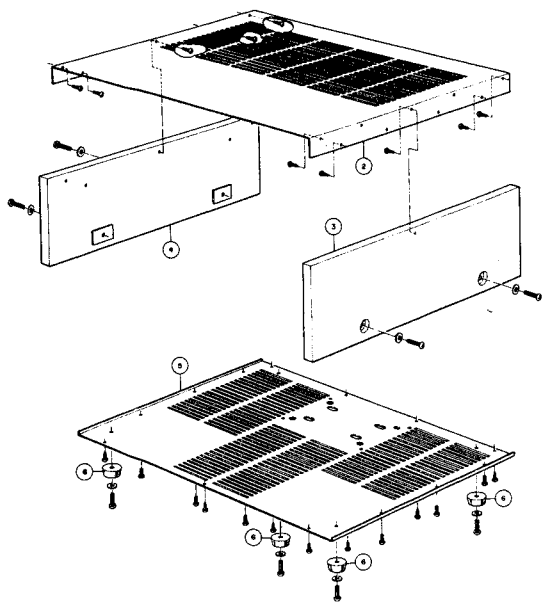


PARTS LIST

Key No.	Part No.	Description	Q'ty
PACKING			
	131 2 5205 13400	Cushion	2
	131 6 1139 48113	Box corrugate exp.	1
	131 6 2119 01440	Bag, Polyethylene exp	1
	131 6 2719 10600	Bag, Fan	1
	131 6 3009 18600	Pad	2
	131 6 4119 36507	Explanatory booklet	1
	131 6 4559 10100	Manufacturing No.	1
CABINET			
	101 3 1104 00600	Screw Pan Hd., 4x6	6
	101 3 1104 01203	Screw Pan Hd., 4x12	4
	101 3 1504 02000	Screw, Truss Hd., 4x20	4
	102 3 1203 00604	Screw, Pan Hd. tpg., 3x6	7
	106 3 1103 11302	Screw, Round Hd. wood., 3.1x13	14
	131 0 1101 06000	Cabinet assy	1
2	131 2 1312 11100	├Grill	1
3	131 2 1101 25300	├Cabinet, Right	1
4	131 2 1101 25400	└Cabinet, Left	1
5	131 2 1105 13100	Plate, Bottom	1
6	131 2 1801 13300	Leg, Rubber	4
	131 2 7103 19800	Label	1
	131 2 4203 84204	Washer, 4.2x14x1	4
	131 2 7103 19900	Caution Label, Cabinet L side	1
APPEARANCE			
7	131 0 1001 26800	Knob assy, Bass, Treble, Balance	4
8	131 0 1001 26900	Knob assy, Function	5
9	131 0 1016 18202	Panel decorate assy	1
10	131 2 1203 29302	├Panel control	1
11	131 2 1311 33800	└Sash	2
12	131 2 1116 12700	Frame, VR	1
13	131 2 1504 10900	Plate, Sign lamp, Power SW	1
14	131 2 1504 10902	Plate, Sign lamp, Function	5
15	131 2 1601 30600	Knob, VR	1
16	131 2 1601 30700	Knob, Mic VR	1
17	131 2 6111 13600	Busing, Function	5
18	131 2 6113 16200	Shelter, Lever SW	4
19	131 2 6113 16300	Shelter, Lever SW	6

Key No.	Part No.	Description	Q'ty
CHASSIS			
	101 3 1103 00610	Screw, Pan Hd., 3x6	2
	101 3 1103 00603	Screw, Pan Hd., 3x6	24
	101 3 1104 00602	Screw, Pan Hd., 4x6	4
	102 3 1203 00602	Screw, Pan Hd. tpg., 3x6	61
	102 3 1203 00604	Screw, Pan Hd. tpg., 3x6	13
	102 3 1203 00802	Screw, Pan Hd. tpg., 3x8	5
	102 3 1203 01204	Screw, Pan Hd. tpg., 3x12	10
	102 3 2403 00601	Screw, Flat Hd. tpg., 3x6	8
	102 3 2203 50601	Screw, Button Hd., 3.5x6	2
20	131 0 3016 10500	Cramp wire assy	4
21	131 2 1110 17001	Plate Decorate	1
22	131 2 3701 18200	Metal Mount, Electric Part	1
23	131 2 3301 17402	Chassis	1
24	131 2 3305 17100	Panel, Front	1
25	131 2 3306 16903	Panel, Rear	1
27	131 2 3608 11700	Cramp wire	3
28	131 2 3608 11701	Cramp wire	9
29	131 2 3614 13100	Mount, PCB, Mic amp.	1
30	131 2 3614 13300	Mount, PCB, Muting	2
31	131 2 3614 15900	Mount, PCB, EQ amp.	1
32	131 2 3614 16000	Mount, PCB, Power amp.	4
33	131 2 3617 11600	Metal mount, Trans	1
34	131 2 3701 16200	Mount, Electric part, Mic jack	1
35	131 2 4208 15100	Spacer, Headphone	1
36	131 2 4208 16200	Spacer, VR, Mic knob	2
38	131 2 4221 00100	Rivet	14
39	131 2 5205 13200	Cushion, Power SW	2
40	131 2 6107 14200	Plate sever, Power SW	1
41	131 2 7103 22000	Label	1
42	131 2 6111 11300	Bushing	1
43	131 2 6111 11600	Bushing, Sign lamp	6
44	131 2 6113 11400	Shelter, Lever SW	10
ELECTRICAL PARTS			
45	4 2229 23990	VR 50KB Mic. VR, VR901	1
46	4 2239 20550	Electrolytic capacitor 4700μF 50V	2
47	4 2319 22710	Rotary SW, Speaker selector	1
48	4 2319 23470	Lever SW, Power	1
82	4 2349 20400	Fuse 0.63A	2
83	4 2349 20410	Fuse 0.315A	1
84	4 2349 20590	Fuse 4A	2
50	4 2349 20540	Fuse 3.15A	2
51	4 2359 20190	Socket 5P DIN	1
52	4 2359 21080	Jack Headphone	1
53	4 2359 21820	Fuse holder	2
57	4 2359 21670	Jack, Mic	1
58	4 2359 21860	Wrapping pin jack 10P	1
59	4 2359 21870	Wrapping pin jack 4P	3
60	4 2369 20520	Plug connecter	2
62	4 2369 20561	Plug 1P	6
63	4 2379 20400	Terminal lug 3P R	1
64	4 2379 21060	Terminal, Grand	1
65	4 2379 21210	Terminal SP 4P	2
66	4 2379 21260	Grandterminal lug 5P	1
86	4 2439 20521	Power cord) or	1
	4 2439 20550	Power Card)	1
67	4 2519 22755	Power trans	1
68	4 6129 20214	Pilot lamp, 6.3V 80mA	1
69	131 2 3608 11300	Cramp wire	10
D901		Diode 5B2, Rectifier	1
80	4 2319 21531	Switch, slide voltage select	1
81	131 2 7104 00101	Plate Pad., switch	1
85	4 2359 21021	Fuse Holder	5
90	131 2 1310 21818	Name Plate	1
		CAPACITORS	
C901	C2EHRM103A	MP 0.01μF 250V ±20%	1
C904 905	C1HYDK473A	Ceramic 0.047 F 50V ±10%	2
		RESISTORS	
R907	R2EDPK392A	Carbon 3.9KΩ ¼W ±10%	1
R903 904	R2EDPK124A	Carbon 120KΩ ¼W ±10%	2

EXPLODED VIEW



NOTES: 1. Part orders must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and/or resistors must be multiple of 10 pcs.

PARTS LIST

Key No.	Part No.	Description	Q'ty
ELECTRICAL PARTS			
R901,902	R2EDPK334A	Carbon 330KΩ ¼W ±10%	2
R905,906	R3AXPK561A	Oxside metal 560Ω 1W ±10%	2
PRE AMP PCB ASSY			
72	131 0 4001 49600	Pre amp PCB assy	1
	4 2229 22810	VR B-50K Bass, Treble	2
	4 2229 22820	VR MN-250K Balance	1
	4 2229 22830	VR B-250K Volume	1
		CAPACITORS	
C305,306 309,310 319,320	C1HCSK350SL-	Ceramic 35pF 50V ±10%	6
C301,302	C1HCSK201SL-	Ceramic 200pF 50V ±10%	2
C315,316	C1HFAK102A--	Mylar 0.001μF 50V ±10%	2
C303,304	C1HFAM104A--	Mylar 0.1μF 50V ±20%	2
C317,318 325,326	C1FRB-105A--	Electrolytic 1μF 25V	4
C313,314 321,322 327,328	C1FRB-106A--	Electrolytic 10μF 25V	6
C307,308	C1FRB-476A--	Electrolytic 47μF 25V	2
C311,312 323,324	C0JRB-107A--	Electrolytic 100μF 6.3V	4
C329	C1VRB-108A--	Electrolytic 1000μF 35V	1
		RESISTORS	
R349	R2EDPJ221A	Carbon 220Ω ¼W ±5%	1
R329,330	R2EDSK331A	Carbon 330Ω ¼W ±10%	2
R313,314	R2EDSK391A	Carbon 390Ω ¼W ±10%	2
R307,308	R2EDSK102A	Carbon 1KΩ ¼W ±10%	2
R350,351	R2EDSK272A	Carbon 2.7KΩ ¼W ±10%	2
R311,312	R2EDSK332A	Carbon 3.3KΩ ¼W ±10%	2
R331,332	R2EDSK562A	Carbon 5.6KΩ ¼W ±10%	2
R317,318 319,320	R2EDSK682A	Carbon 6.8KΩ ¼W ±10%	4
R309,310 323,324	R2EDSK103A	Carbon 10KΩ ¼W ±10%	4
R341,342	R2EDSK153A	Carbon 15KΩ ¼W ±10%	2
R325,326 339,340	R2EDSK183A	Carbon 18KΩ ¼W ±10%	4
R305,306	R2EDSK273A	Carbon 27KΩ ¼W ±10%	2
R327,328	R2EDSK333A	Carbon 33KΩ ¼W ±10%	2
R343,344	R2EDSK104A	Carbon 100KΩ ¼W ±10%	2
R315,316	R2EDSK184A	Carbon 180KΩ ¼W ±10%	2
R333,334 335,336 337,338 345,346 347,348	R2EDSK224A	Carbon 220KΩ ¼W ±10%	10
R301,302 303,304 321,322	R2EDSK474A	Carbon 470KΩ ¼W 10%	6
		SEMICONDUCTORS	
Q301,302	TJJ-2SA763--5-	Transistor 2SA763, or 2SS726	2
Q303,304 305,306 307,308	TMM-2SC1313-6-	Transistor 2SC1313	6

NOTES: 1. Part orders must contain Model Number, Part Number and Description.
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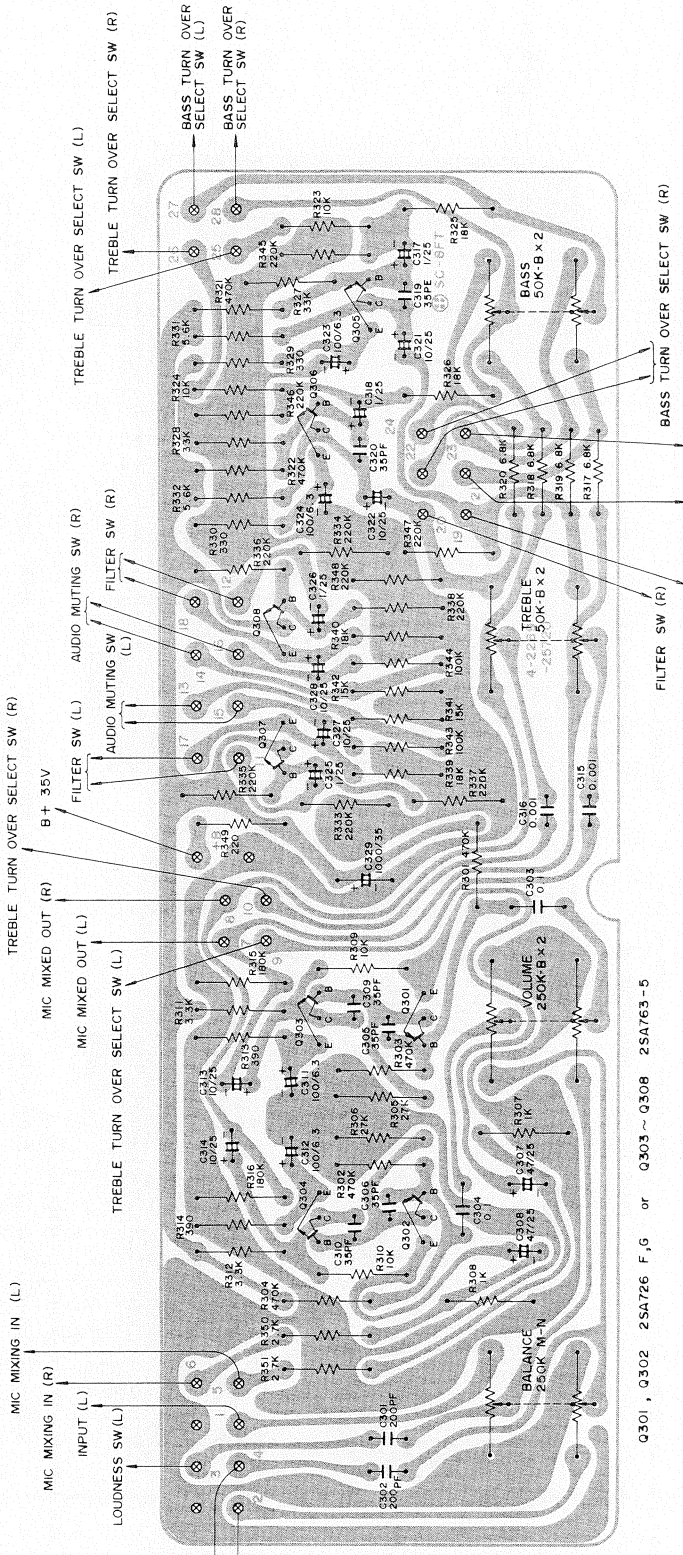
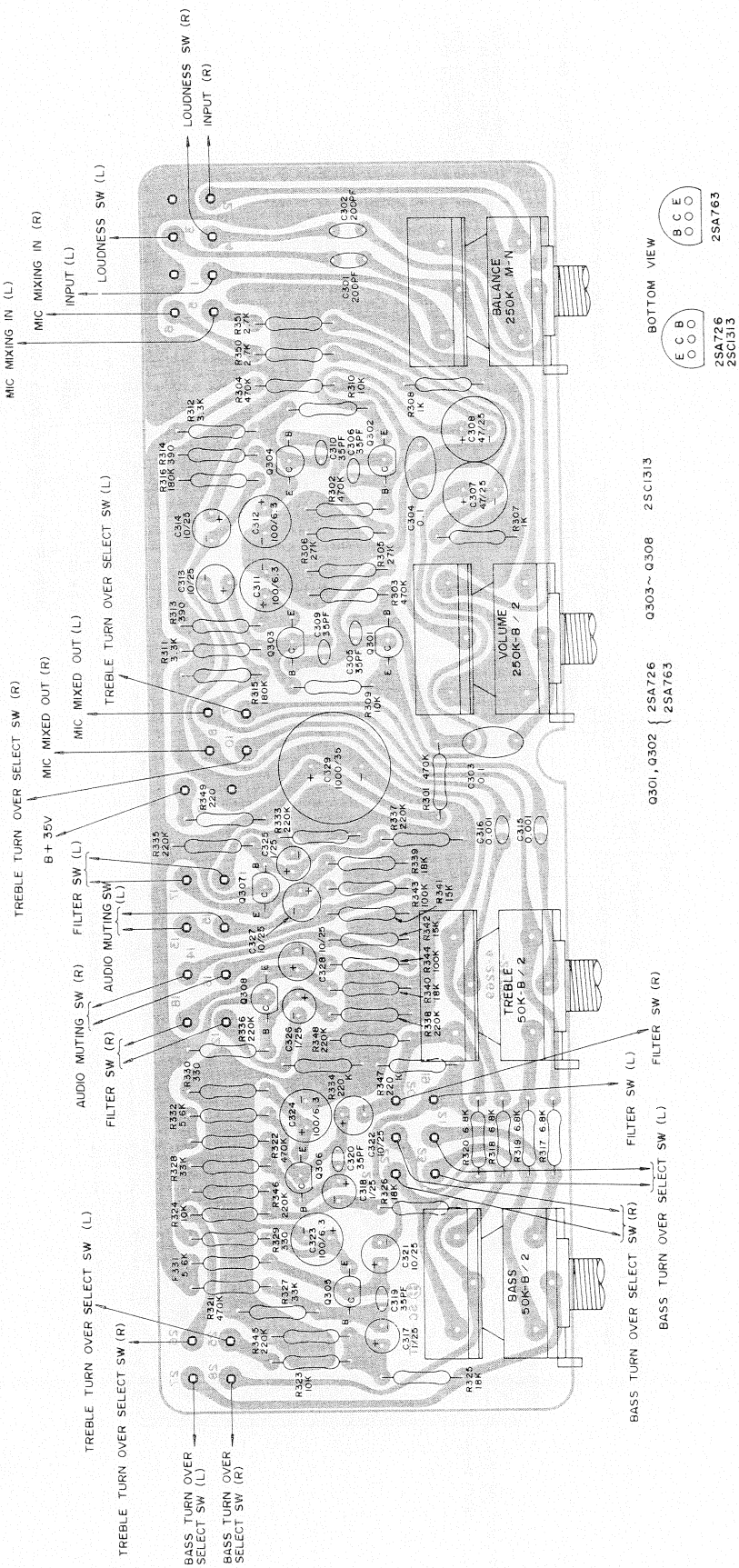
PRE AMP P.C.B. ASS'Y BOTTOM VIEW


MIC MIXING IN (L)
MIC MIXING IN (R)
INPUT (L)
LOUDNESS SW (L)
LOUDNESS SW (R)
INPUT (R)
TREBLE TURN OVER SELECT SW (R)
B+ 35V
MIC MIXED OUT (R)
MIC MIXED OUT (L)
TREBLE TURN OVER SELECT SW (L)
FILTER SW (L)
AUDIO MUTING SW (L)
AUDIO MUTING SW (R)
FILTER SW (R)
TREBLE TURN OVER SELECT SW (L)
TREBLE TURN OVER SELECT SW (R)
BASS TURN OVER SELECT SW (L)
BASS TURN OVER SELECT SW (R)
FILTER SW (L)
FILTER SW (R)
BASS TURN OVER SELECT SW (L)
BASS TURN OVER SELECT SW (R)
BALANCE 250K M-N
VOLUME 250K-B×2
TREBLE 50K-B×2
BASS 50K-B×2
Q301, Q302 2SA726 F,G or Q303~Q308 2SA763-5

RE AMP P.C.B. ASS'Y TOP VIEW



PARTS LIST

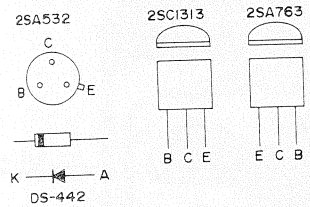
Key No.	Part No.	Description	Q'ty
EQ AMP PCB ASSY			
71	131 0 4001 49700	EQ AMP PCB ASSY	1
	4 2319 33550	Switch, Push 5 key	1
	4 6129 20206	Pilot lamp 6.3V 80mA	5
		CAPACITORS	
C209,210	C1HCSC080SL-	Ceramic 8 pF 50V ±0.25pF	2
C217,218	C1HFAJ402A--	Mylar 0.004μF 50V ±5%	2
C215,216	C1HFAJ153A--	Mylar 0.015μF 50V ±5%	2
C201,202	C1HFAK104A--	Mylar 0.1μF 50V ±10%	2
C221	C1HFRK104A--	Mylar 0.1μF 50V ±10%	1
C213,214	C1HFAK354A--	Mylar 0.35μF 50V ±10%	2
C205,206	C0JRE-107A--	Electrolytic 100μF 6.3V	2
C211,212	C0JRF-227A--	Electrolytic 220μF 6.3V	2
C203,204 207,208	C1HYSZ102A--	Ceramic 0.001μF 50V +80-20%	4
C219,220	C1HYSZ104A--	Ceramic 0.1μF 50V +80-20%	2

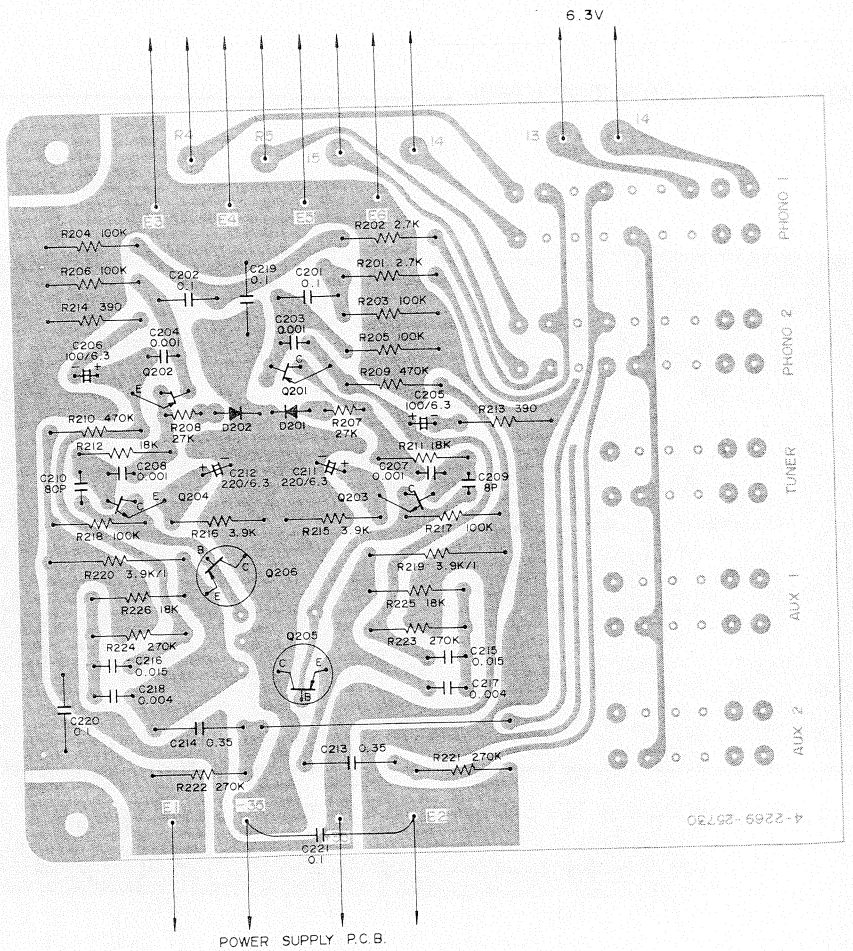
Key No.	Part No.	Description	Q'ty
EQ AMP PCB ASSY			
		RESISTORS	
R213,214	R2EDSJ391A	Carbon 390Ω ¼W ±5%	2
R201,202	R2EDSK272A	Carbon 2.7KΩ ¼W ±10%	2
R215,216	R2EDSK392A	Carbon 3.9KΩ ¼W ±10%	2
R219,220	R3ADPK392A	Carbon 3.9KΩ 1W ±10%	2
R211,212 225,226	R2EDSJ183A	Carbon 18KΩ ¼W ±5%	4
R207,208	R2EDCK273A	Carbon 27KΩ ¼W ±10%	2
R203,204 205,206 218	R2EDSK104A	Carbon 100KΩ ¼W ±10%	5
R221,222 223,224	R2EDSJ274A	Carbon 270KΩ ¼W ±5%	4
R209,210	R2EDSK474A	Carbon 470KΩ ¼W ±10%	2
		SEMICONDUCTORS	
Q201,202	TJJ-2SA763--S-	Transistor 2SA763	2
Q203,204	TMM-2SC1313-G-	Transistor 2SC1313	2
Q205,206	203 5 7100 53240	Transistor 2SA532 (D)	2
D201,202	205 5 9040 44210	Diode DS-442	2

NOTES: 1. Part orders must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and/or resistors must be multiple of 10 pcs.

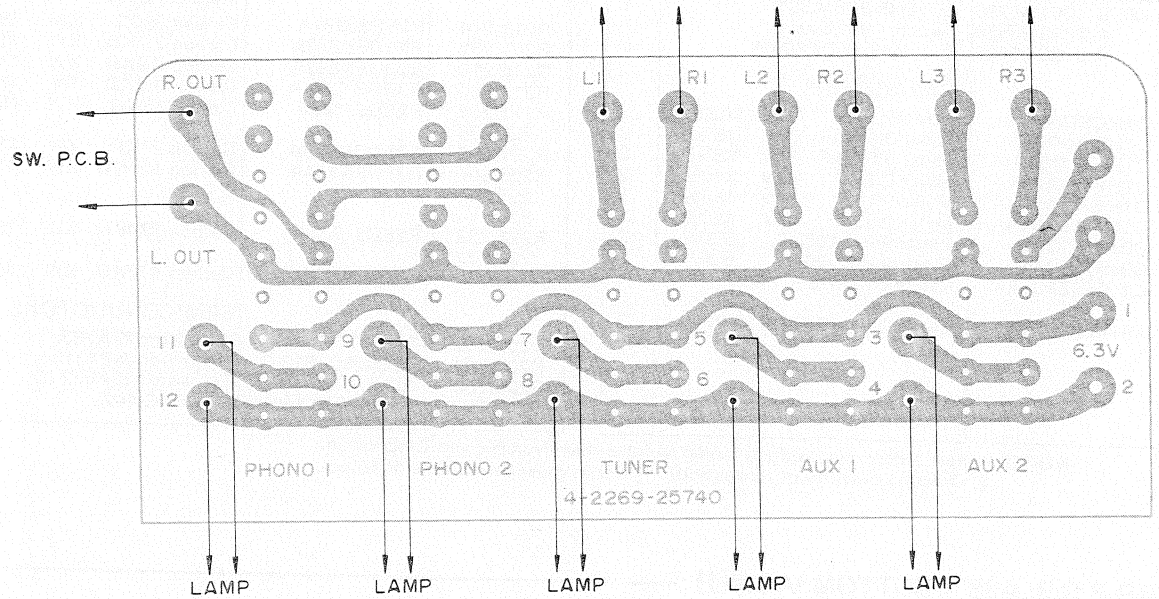
EQUALIZER P.C.B. ASS'Y BOTTOM VIEW(1)

Q201 , Q202 2SA763
Q203 , Q204 2SC1313
Q205 , Q206 2SA532
D201 , D202 DS-442

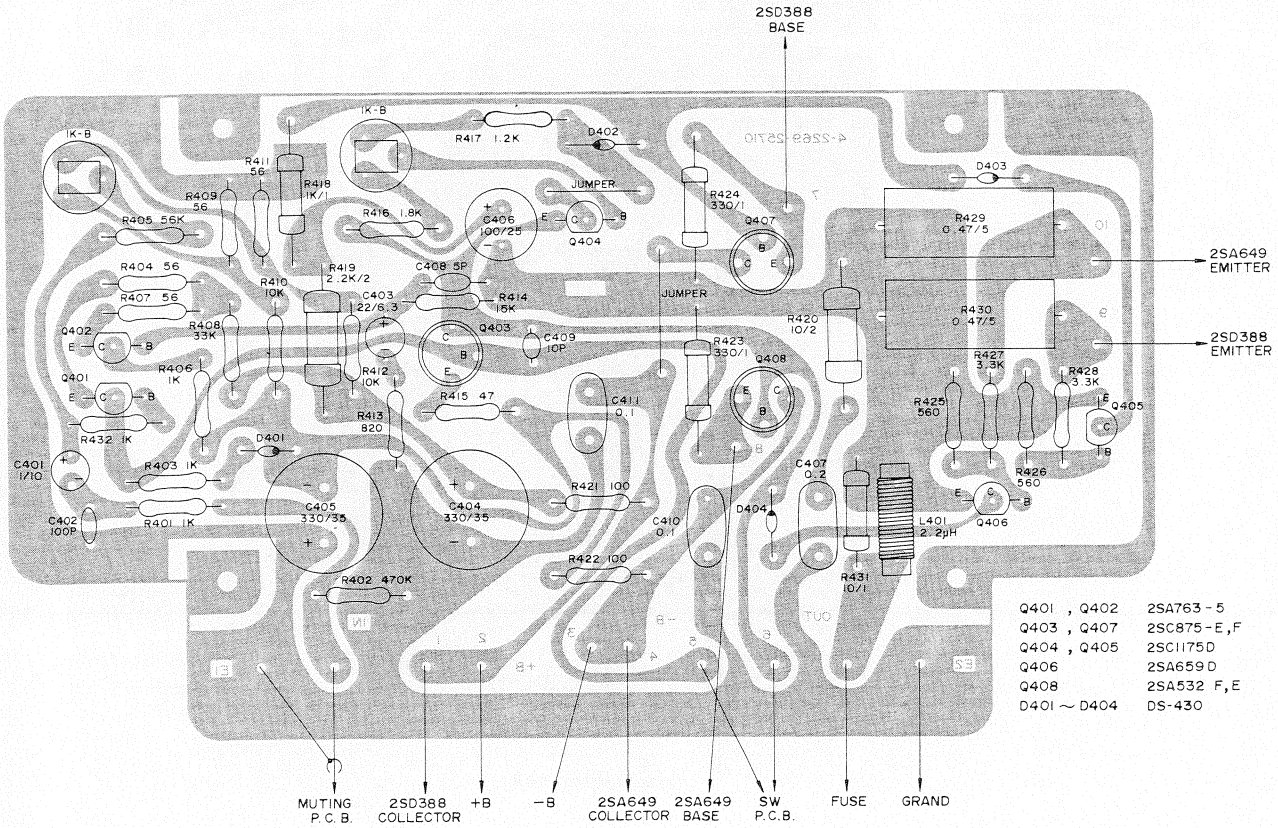




EQ AMP P.C.B. ASS'Y BOTTOM VIEW(2)



MAIN AMP P.C.B. ASS'Y TOP VIEW



Q401 , Q402	2SA763-5
Q403 , Q407	2SC875-E,F
Q404 , Q405	2SC1175D
Q406	2SA659D
Q408	2SA532 F,E
D401 ~ D404	DS-430

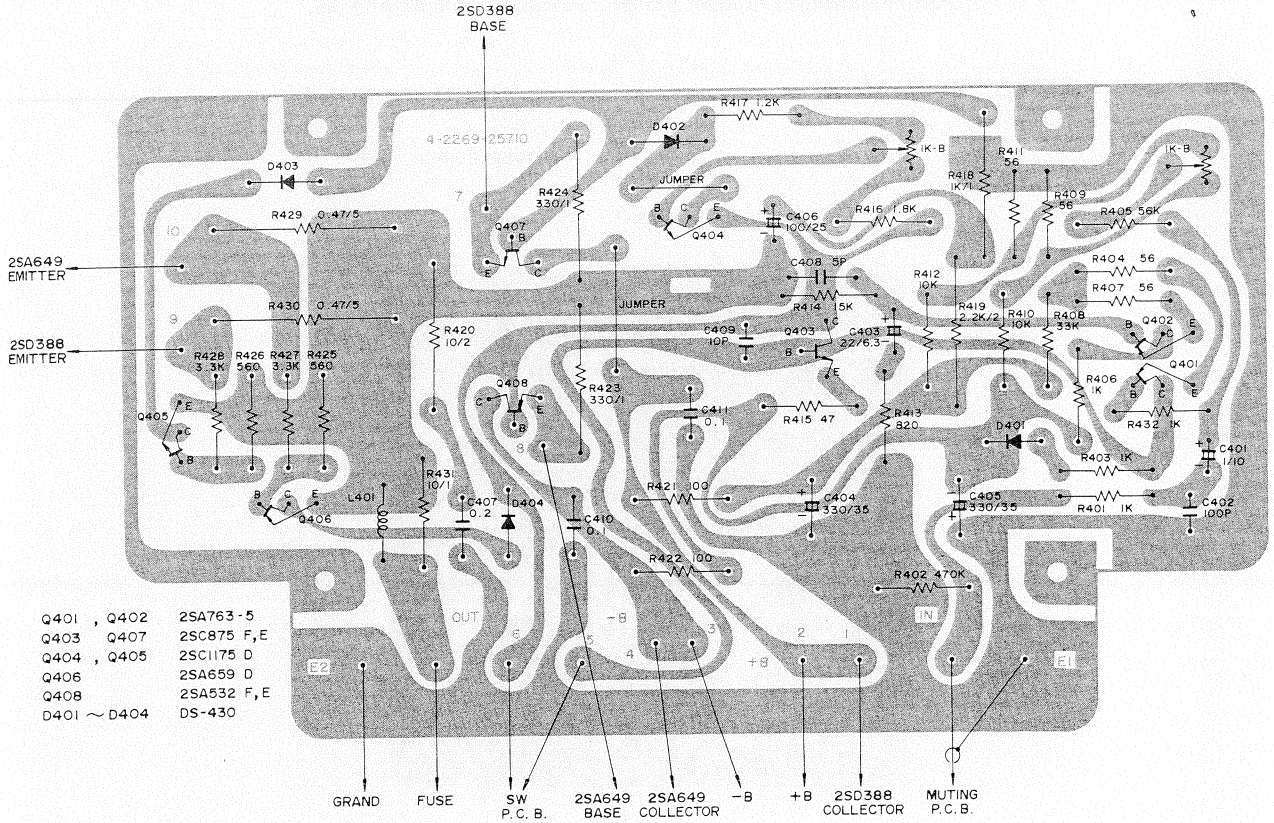
PARTS LIST

Key No.	Part No.	Description	Q'ty
MAIN AMP PCB ASSY			
70	131 0 4001 49501	Main amp PCB assy	2
VR401,402	4 2229 22910	Potentiometer B-1KΩ	2
L401	4 2539 20160	Choke coil, 22μF	1
	131 2 3614 13400	Mount, PCB	2
	131 2 3701 12900	Mount, Electric part	1
	131 2 3701 13000	Mount, Electric part	1
	131 2 6201 19301	Plate, Heat sink	1
C408	C1HCDC050SL-	Ceramic 5pF 50V ±0.25pF	1
C409	C1HCSC100SL-	Ceramic 10pF 50V ±0.25pF	1
C402	C1HCSM101SL-	Ceramic 100pF 50V ±20%	1
C410,411	C1HFAM104A--	Mylar 0.1μF 50V ±20%	2
C407	C1HFAM204A--	Mylar 0.2μF 50V ±20%	1
C401	C1ARB-105A--	Electrolytic 1μF 10V	1
C403	C0JRB-226A--	Electrolytic 22μF 6.3V	1
C406	C1ERB-107A--	Electrolytic 100μF 25V	1
C404,405	C1VRB-337A--	Electrolytic 330μF 35V	2
		RESISTORS	
R415	R2EDSK470A	Carbon 47Ω ¼W ±5%	1
R404,407	R2EDSK560A	Carbon 56Ω ¼W ±5%	2
R409,411	R2EDSJ121A	Carbon 120Ω 1/4W ±5%	2
R421,422	R2HZPK101A	Fuse 100Ω 1/2W ±10%	2
R425,426	R2EDSK561A	Carbon 560Ω ¼W ±5%	2
R413	R2EDSK821A	Carbon 820Ω ¼W ±5%	1
R401,403 406,432	R2EDSK102A	Carbon 1KΩ ¼W ±5%	4
R418	R3AXPK102A	Oxside Melal 1 W ±10%	1
R417	R2EDSK122A	Carbon 1.2KΩ ¼W ±5%	1
R416	R2EDSK182A	Carbon 1.8KΩ ¼W ±5%	1

Key No.	Part No.	Description	Q'ty
MAIN AMP PCB ASSY			
R427,428	R2EDSK332A	Carbon 3.3KΩ ¼W ±5%	2
R410,412	R2EDSK103A	Carbon 10KΩ ¼W ±5%	2
R414	R2EDSK153A	Carbon 15KΩ ¼W ±5%	1
R408	R2EDSK333A	Carbon 33KΩ ¼W ±5%	1
R405	R2EDSK563A	Carbon 56KΩ ¼W ±5%	1
R402	R2EDSK474A	Carbon 470KΩ ¼W ±5%	1
R429,430	R3FHPK0R5A	Cemen 0.5Ω 5W ±10%	2
R431	R3AXPK100A	Oxside metal 10Ω 1W ±10%	1
R420	R3DXPK100A	Oxside metal 10Ω 2W ±10%	1
R423,424	R3AXPK331A	Oxside metal 330Ω 1W ±10%	2
R419	R3DXPK222A	Oxside metal 2.2KΩ 2W ±10%	1
		SEMICONDUCTORS	
Q401,402	TJJ-2SA763--5-	Transistor 2SA763 or 2SA726	2
Q409	TNN-2SD388--N	Transistor 2SD388	1
Q410	TNN-2SA649--N--	Transistor 2SA649	1
Q403,407	203 5 4600 87550	Transistor 2SC 875 (E)	2
Q404,405	203 5 6701 17540	Transistor 2SC 1175(D)	2
Q406	203 5 6800 65940	Transistor 2SA 659(D)	1
Q408	203 5 7100 53250	Transistor 2SA 532(E)	1
D401,402 403,404	205 5 9020 43011	Diode DS 430	4

NOTES: 1. Part orders must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and/or resistors must be multiple of 10 pcs.

MAIN AMP P.C.B. ASS'Y BOTTOM VIEW



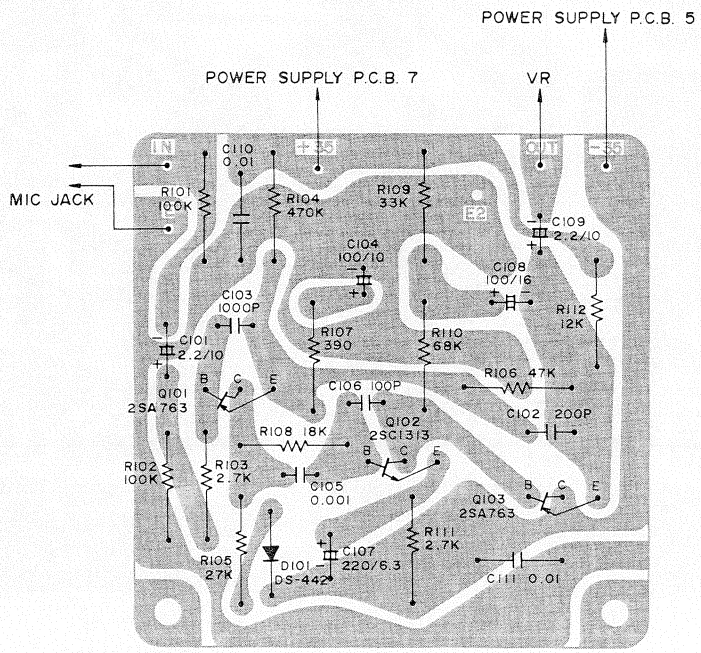
PARTS LIST

Key No.	Part No.	Description	Q'ty
MIC AMP PCB ASSY			
74	131 0 4001 49800	MIC AMP PCB assy	1
		CAPACITORS	
C102	C1HCSK201SL-	Ceramic 200 pF 50V ±10%	1
C104	C1ARB-107A--	Electrolytic 100μF 10V	1
C108	C1CRB-107A--	Electrolytic 100μF 16V	1
C107	C0JRF-227A--	Electrolytic 220μF 6.3V	1
C101,109	C1AURM225A--	Alsicon 2.2μF 10V ±20%	2
C106	C1HYSZ101A--	Ceramic 100pF 50V +80-20%	1
C103,105	C1HYSZ102A--	Ceramic 0.001μF 50V +80-20%	2
C110,111	C1HYSZ103A	Ceramic 0.01μF 50V +80-20%	2
		RESISTORS	
R107	R2EDSK391A	Carbon 390Ω ¼W ±5%	1
R103,111	R2EDSK272A	Carbon 2.7KΩ ¼W ±5%	2
R112	R2EDSK123A	Carbon 12KΩ ¼W ±5%	1
R108	R2EDSK183A	Carbon 18KΩ ¼W ±5%	1
R105	R2EDSK273A	Carbon 27KΩ ¼W ±5%	1
R109	R2EDSK333A	Carbon 33KΩ ¼W ±5%	1
R106	R2EDSK473A	Carbon 47KΩ ¼W ±5%	1
R110	R2EDSK683A	Carbon 68KΩ ¼W ±5%	1
R101,102	R2EDSK104A	Carbon 100KΩ ¼W ±5%	2
R104	R2EDSK474A	Carbon 470KΩ ¼W ±5%	1
		SEMICONDUCTORS	
Q101,103	TJJ-2SA763--5-	Transistor 2SA763	2
Q102	TMM-2SC1313-G-	Transistor 2SC1313	1
D101	205 5 9040 44210	Diode DS-442	1

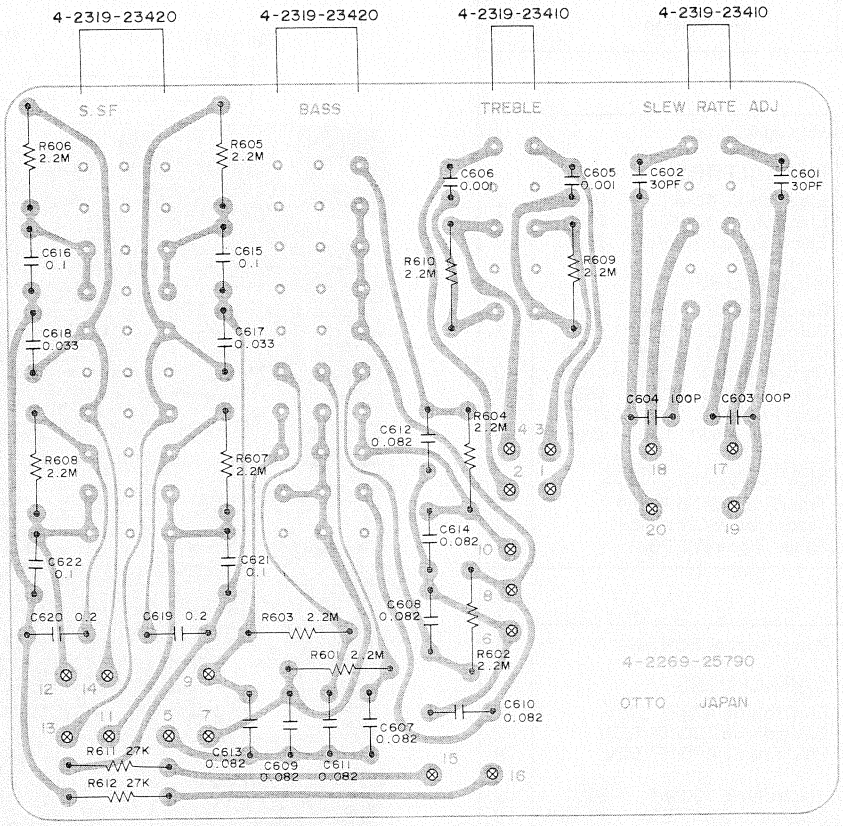
Key No.	Part No.	Description	Q'ty
FILTER PCB ASSY			
75	131 0 4001 50200	Filter PCB assy	1
	4 2319 23410	Lever switch 10P	2
	4 2319 23420	Lever switch 30P	2
		CAPACITORS	
C601,602	C1HCSK300SL-	Ceramic 30pF 50V ±10%	2
C603,604	C1HCSK101SL-	Ceramic 100pF 50V ±10%	2
C605,606	C1HFAK102A--	Mylar 0.001μF 50V ±10%	2
C617,618	C1HFAK333A--	Mylar 0.033μF 50V ±10%	2
C607,608 609,410 611,612 413,614	C1HFAK823A--	Mylar 0.082μF 50V ±10%	8
C615,616 621,622	C1HFAK104A--	Mylar 0.1μF 50V ±10%	4
C619,620	C1HFAK204A--	Mylar 0.2μF 50V ±10%	2
		RESISTORS	
R611,612	R2EDSK273A	Carbon 27KΩ ¼W ±10%	2
R601,602 603,604 605,606 607,608 609,610	R2EDSK225A	Carbon 2.2MΩ ¼W ±10%	10
ACCESSARY FUNCTION PCB ASSY			
76	131 0 4001 49900	Accessary function PCB Assy	1
	4 2319 23400	Lever, Switch 6P	3
	4 2319 23401	Lever, switch non short	2
		CAPACITORS	
C503,504	C1HCSK200SL-	Ceramic 20pF 50V ±10%	2
C501,502	C1HFAK103A--	Mylar 0.01μF 50V ±10%	2
		RESISTORS	
R501,502	R2EDSK272A	Carbon 2.7KΩ ¼W ±10%	2
R503,504	R2EDSK273A	Carbon 27KΩ ¼W ±10%	2

NOTES: 1. Part orders must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and/or resistors must be multiple of 10 pcs.

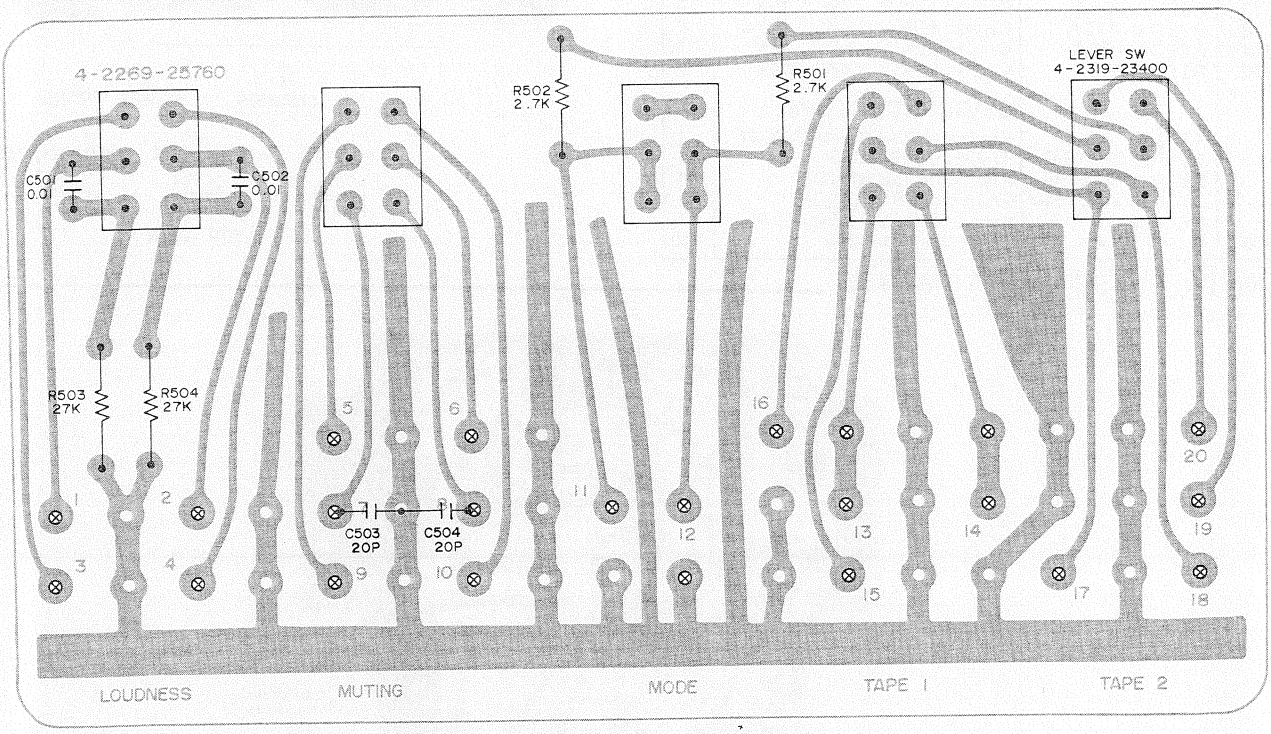
MIC AMP P.C.B. ASS'Y BOTTOM VIEW



FILTER P.C.B. ASS'Y BOTTOM VIEW



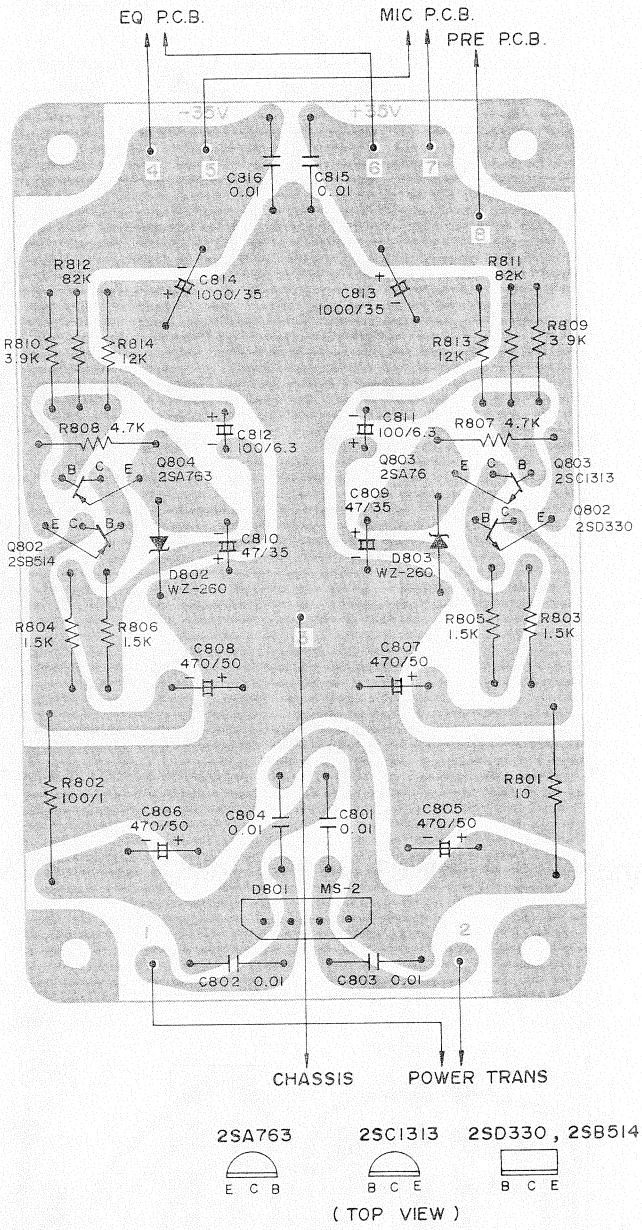
ACCESSARY FUNCTION P.C.B. ASS'Y BOTTOM VIEW



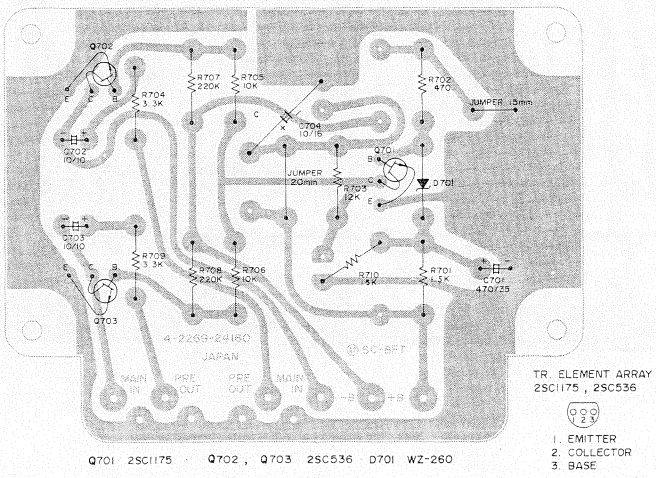
PARTS LIST

Key No.	Part No.	Description	Q'ty
MUTING PCB ASSY			
77	131 0 4001 33201	Muting PCB assy	1
		CAPACITORS	
C702,703	C1ARB-106A--	Electrolytic 10μF 10V	2
C704	C1CRF-106A--	Electrolytic 10μF 16V	1
C701	C1VRB-477A--	Electrolytic 470μF 35V	1
		RESISTORS	
R702	R2EDSJ471A	Carbon 470Ω ¼W ±5%	1
R701	R2EDSK182A	Carbon 1.8KΩ ¼W ±5%	1
R704,709	R2EDSK332A	Carbon 3.3KΩ ¼W ±10%	2
R705,706	R2EDSK103A	Carbon 10KΩ ¼W ±10%	2
R703	R2EDSJ123A	Carbon 12KΩ ¼W ±5%	1
R710	R2EDSJ183A	Carbon 18KΩ ¼W ±5%	1
R707,708	R2EDSK224A	Carbon 220KΩ ¼W ±10%	2
		SEMICONDUCTORS	
Q702,703	203 5 5100 53640	Transistor 2SC 536 (D)	2
Q701	203 5 6701 17540	Transistor 2SC 1175D	1
D701	DJJ-WZ-260	Zener Diode WZ-260	1
POWER SUPPLY PCB ASSY			
73	131 0 4001 50100	Power supply PCB assy	1
		CAPACITORS	
C809,810	C1VRB-476A--	Electrolytic 47μF 35V	2
C811,812	C0JRB-107A--	Electrolytic 100μF 6.3V	2
C805,806 807,808	C1HRB-477A--	Electrolytic 470μF 50V	4
C813,814	C1VRB-108A--	Electrolytic 1000μF 35V	2
C801,802 803,804 815,816	C1HYSZ103A--	Ceramic 0.01μF 50V +80-20%	6
		RESISTORS	
R801	R2EDPJ100A	Carbon 10Ω ¼W ±5%	1
R802	R3ADPK101A	Carbon 100Ω 1W ±10%	1
R803,804 805,806	R2EDSK152A	Carbon 1.5KΩ ¼W ±5%	4
R809,810	R2EDSJ392A	Carbon 3.9KΩ ¼W ±5%	2
R807,808	R2EDSK472A	Carbon 4.7KΩ ¼W ±10%	2
R813,814	R2EDSJ123A	Carbon 12KΩ ¼W ±5%	2
R811,812	R2EDSJ823A	Carbon 82KΩ ¼W ±5%	2
		SEMICONDUCTORS	
Q804	TJJ-2SA763--5-	Transistor 2SA763 or 2SA726	1
Q803	TMM-2SC1313-G-	Transistor 2SC1313	1
Q802	203 5 6460 51440	Transistor 2SB 514(D)	1
Q801	203 5 8220 33040	Transistor 2SD 330(D)	1
D801	DCC-MS-2	Bridce diode MS-2 200V 1A	1
D802,803	DJJ-WZ-260	Zener diode WZ-260	2

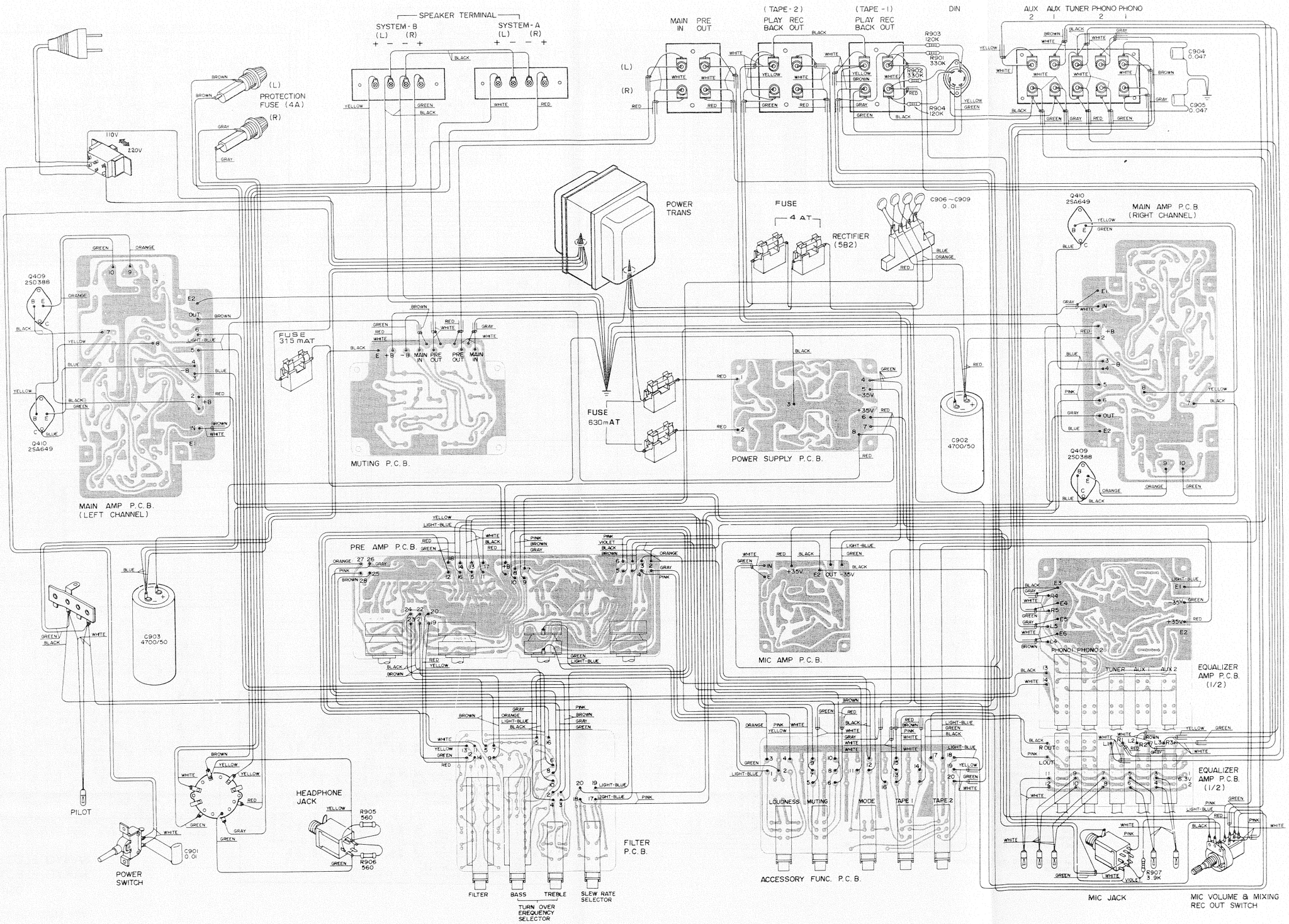
POWER SUPPLY P.C.B. ASS'Y BOTTOM VIEW



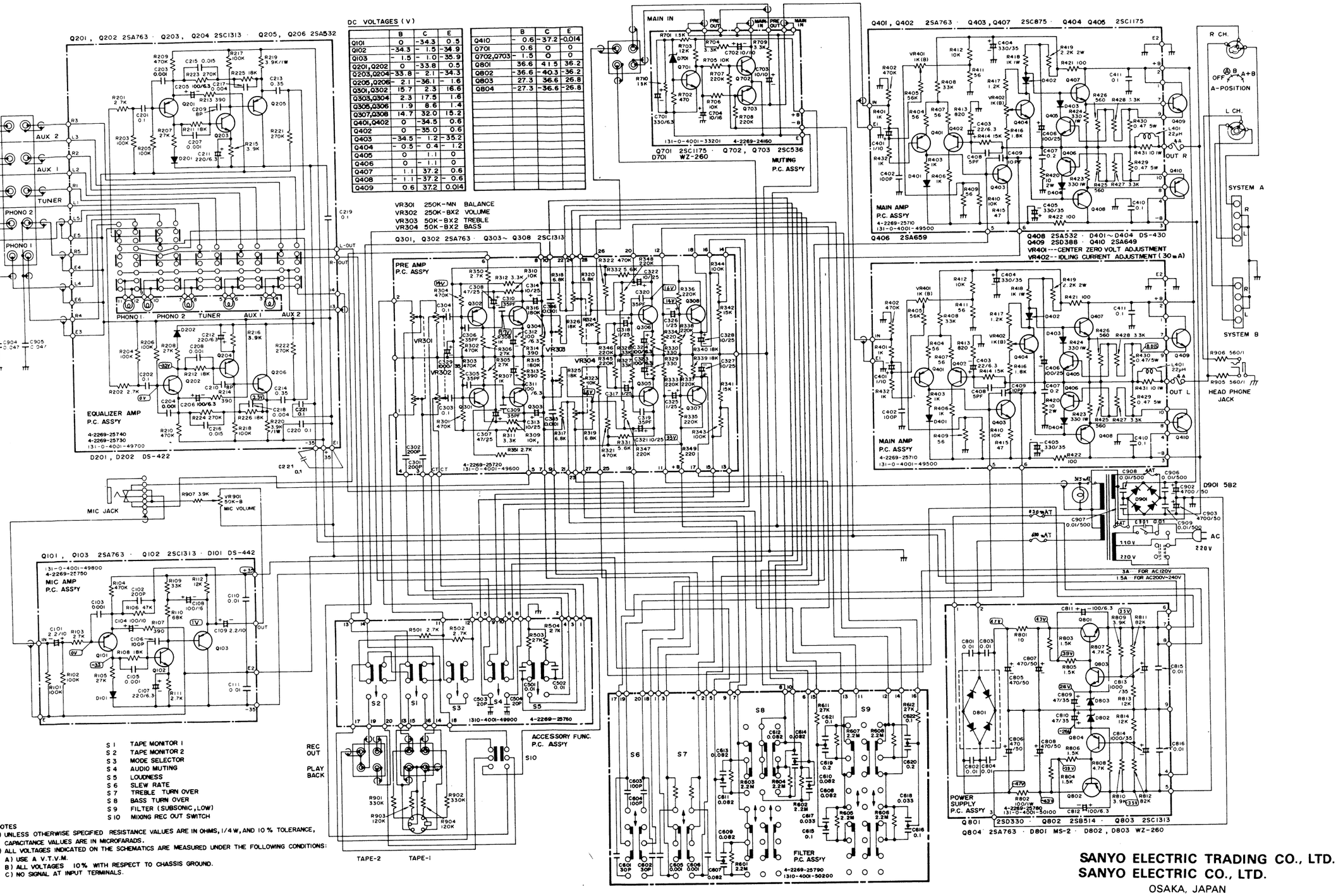
MUTING P.C.B. ASS'Y BOTTOM VIEW



WIRING DIAGRAM



SCHEMATIC DIAGRAM



NOTES
1) UNLESS OTHERWISE SPECIFIED RESISTANCE VALUES ARE IN OHMS, 1/4W, AND 10% TOLERANCE, CAPACITANCE VALUES ARE IN MICROFARADS.
2) ALL VOLTAGES INDICATED ON THE SCHEMATICS ARE MEASURED UNDER THE FOLLOWING CONDITIONS:
   A) USE A V.T.V.M.
   B) ALL VOLTAGES 10% WITH RESPECT TO CHASSIS GROUND.
   C) NO SIGNAL AT INPUT TERMINALS.

	B	C	E
Q101	0	-34.3	0.5
Q102	-34.3	- 1.5	-34.9
Q103	- 1.5	- 1.0	-35.9
Q201, Q202	0	-33.8	0.5
Q203, Q204	-33.8	- 2.1	-34.3
Q205, Q206	- 2.1	-36.1	- 1.6
Q301, Q302	15.7	2.3	16.6
Q303, Q304	2.3	17.5	1.6
Q305, Q306	1.9	8.6	1.4
Q307, Q308	14.7	32.0	15.2
Q401, Q402	0	-34.5	0.6
Q402	0	-35.0	0.6
Q403	-34.5	- 1.2	-35.2
Q404	- 0.5	- 0.4	- 1.2
Q405	0	1.1	0
Q406	0	- 1.1	0
Q407	1.1	37.2	0.6
Q408	- 1.1	-37.2	- 0.6
Q409	0.6	37.2	0.014

	B	C	E
Q410	- 0.6	-37.2	-0.014
Q701	0.6	0	0
Q702, Q703	- 1.5	0	0
Q801	36.6	41.5	36.2
Q802	-36.6	-40.3	-36.2
Q803	27.3	36.6	26.8
Q804	-27.3	-36.6	-26.8

SANYO ELECTRIC TRADING CO., LTD.
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OSAKA, JAPAN

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